Claims:

What is claimed is:

1. An isolated marker for rheumatoid arthritis selected from the group consisting of

a) a marker selected from the group consisting of the markers set forth in Tables 1-8.

b) a polypeptide comprising an amino acid sequence selected from the group consisting of a polypeptide set forth in Tables 1-4;

c) a polypeptide comprising a homolog of a polypeptide of b), wherein said homolog shares 70% homology with the polypeptide of b) comprises a polypeptide;

d) a fragment of a polypeptide of b) or c);

e) a polynucleotide encoding any of the polypeptides of b), c), or d);

f) a polynucleotide encoding a homolog of a polypeptide of encoded by a nucleic acid sequence of e), and

g) a polypeptide which is fully complementary to a nucleic acid molecule of f).

2. A method for diagnosing rheumatoid arthritis in a subject, the method comprising:

a) obtaining a biological sample from the subject;

b) determining the level of a marker in the sample; and

c) comparing the level of the marker in the sample to a standard level or reference range.

3. The method of claim 2, wherein the marker is a marker of claim 1.

4. The method of claim 2, wherein the biological sample is a body fluid.

5. The method of claim 4, wherein the body fluid is selected from the group consisting of blood, serum, plasma, synovial fluid, urine, and saliva.

6. The method of claim 2, wherein the standard level or reference range is the level or range of the marker in at least one sample from a non-RA subject.

7. The method of claim 3, wherein the marker is not expressed in non-RA subjects.

8. The method of claim 3, wherein the level of the marker is determined by detecting the presence of a polypeptide.

9. The method of claim 8, wherein the polypeptide is the marker.

10. The method of claim 8, wherein the polypeptide is a modified form of the marker.

11. The method of claim 8, wherein the polypeptide is a precursor to the marker.

12. The method of claim 8, wherein the method further comprises detecting the presence of the polypeptide using a reagent that specifically binds to the polypeptide or a fragment thereof.

13. The method of claim 12, wherein the reagent is selected from the group consisting of an antibody, an antibody derivative, and an antibody fragment.

14. The method of claim 3, wherein the subject is a lab animal.

15. The method of claim 3, wherein the subject is a human subject.

16. A method for diagnosing rheumatoid arthritis in a subject, the method comprising:

a) obtaining one or more biological samples from the subject;

b) determining the level of a plurality of markers in the one or more biological samples, wherein at least one of the plurality of markers is a marker of claim 1; and

c) comparing the level of at least one of the plurality of markers to a reference value.

17. The method of claim 16, wherein at least one of the plurality of markers is a marker as set forth in Tables 1-8.

18. The method of claim 16, wherein the biological sample is a body fluid.

19. The method of claim 18, wherein the body fluid is selected from the group consisting of blood, serum, plasma, synovial fluid, urine, and saliva.

20. The method of claim 16, wherein at least two of the plurality of markers are a marker of claim 1

21. The method of claim 20, wherein at least two of the plurality of markers are selected from the group consisting of the markers set forth in Tables 1-8.

22. The method of claim 16, wherein at least ten of the plurality of markers are a marker of claim 1.

23. The method of claim 22, wherein at least ten of the plurality of markers are selected from the group consisting of the markers set forth in Tables 1-8.

24. The method of claim 16, wherein the standard level or reference range is the level of at least one of the plurality of markers in at least one sample from a non-RA subject, and wherein the level of the at least one of the plurality of markers is increased by at least one fold with respect to the reference value.

25. The method of claim 24, wherein the level of the at least one of the plurality of markers is increased by at least two fold with respect to the standard level or reference range.

26. The method of claim 16, wherein at least one of the plurality of markers is selected from the group consisting of the markers set forth in Tables 5-8.

27. The method of claim 26, wherein the reference value is the level of the at least one of the plurality of markers in at least one sample from a non-RA subject, and wherein the level of the at least one of the plurality of markers is increased by at least one fold with respect to the reference value.

28. The method of claim 27, wherein the level of the at least one of the plurality of markers is increased by at least two fold with respect to the reference value.

29. The method of claim 16, wherein the level of the at least two of the plurality of markers is indicative of differential expression in RA.

30. A method for monitoring the progression of rheumatoid arthritis in a subject, the method comprising:

a) obtaining a first biological sample from the subject;

b) measuring the level of a marker in the first sample, wherein the marker is a

marker of claim 1;

c) obtaining a second biological sample from the subject;

d) measuring the level of the marker in the second sample; and

e) comparing the level of the marker measured in the first sample with the level of the marker measured in the second sample.

31. The method of claim 30, wherein said obtaining a first biological sample from the subject occurs a time t_0, and said obtaining a second biological sample from the subject occurs at a later time t_1.

32. The method of claim 31, wherein said obtaining a first biological sample from the said obtaining a second biological sample from the subject is repeated over a range of times.

33. The method of claim 30, wherein the marker is selected from the group consisting of the markers set forth in Tables 1-8.

34. The method of claim 30, wherein the marker is selected from the group consisting of the markers set forth in Tables 5-8.

35. A method of assessing the efficacy of a treatment for rheumatoid arthritis in a subject, the method comprising comparing:

i) the level of a marker measured in a first sample obtained from the subject at a time t_0, wherein the marker is selected from the group consisting of

a) a polypeptide comprising an amino acid sequence selected from the group consisting of a polypeptide set forth in Tables 1-4;

b) a polypeptide comprising a homolog of a polypeptide of a), wherein said homolog shares 70% homology with the polypeptide of a) comprises a polypeptide;

c) a fragment of a polypeptide of a) or b); and

d) a polynucleotide encoding any of the polypeptides of a), b), or c).

e) a polynucleotide encoding a homolog of a polypeptide of encoded by a nucleic acid sequence of (d), and

f) a polypeptide which is fully complementary to a nucleic acid molecule of (e); and

(ii) the level of the marker in a second sample obtained from the subject at time t_1,

wherein a decrease in the level of the marker in the second sample relative to the first sample is an indication that the treatment is efficacious for treating rheumatoid arthritis in the subject.

36. The method of claim 35, wherein said time t_0 is before the treatment has been administered to the subject, and said time t_1 is after the treatment has been administered to the subject.

37. The method of claim 36, wherein said comparing is repeated over a range of times.

38. A method of assessing the efficacy of a treatment for rheumatoid arthritis in a subject, the method comprising comparing:

(i) the level of a marker in a first sample obtained from the subject at a time t_0, wherein the marker is selected from the group consisting of the markers set forth in Tables 5-8; and

(ii) the level of the marker in a second sample obtained from the subject at a time t_1,

wherein an increase in the amount of the marker in the second sample, relative to the first sample, is an indication that the treatment is efficacious for inhibiting rheumatoid arthritis in the subject.

39. The method of claim 38, wherein said time t_0 is before the treatment has been administered to the subject, and said time t_1 is after the treatment has been administered to the subject.

40. The method of claim 39, wherein said comparing is repeated over a range of times.

41. A method of treating rheumatoid arthritis in a subject, the method comprising inhibiting expression of a gene corresponding to a polynucleotide marker selected from the group consisting of the markers set forth in Tables 1-4.

42. The method of claim 41, wherein the first marker is a molecule selected from the group consisting of the markers set forth in Tables 1-4.

43. The method of claim 41, wherein the second marker is a molecule selected from the group consisting of the markers set forth in Tables 5-8.

44. A composition comprising a molecule selected from the group selected from the group consisting of

a) a marker selected from the group consisting of the markers set forth in Tables 1-8.

b) a polypeptide comprising an amino acid sequence selected from the group consisting of a polypeptide set forth in Tables 1-4;

c) a polypeptide comprising a homolog of a polypeptide of b), wherein said homolog shares 70% homology with the polypeptide of b) comprises a polypeptide;

d) a fragment of a polypeptide of b) or c);

e) a polynucleotide encoding any of the polypeptides of b), c), or d);

f) a polynucleotide encoding a homolog of a polypeptide of encoded by a nucleic acid sequence of e), and

g) a polypeptide which is fully complementary to a nucleic acid molecule of f).

45. A method for determining the type, stage or severity of rheumatoid arthritis in a subject, the method comprising:

obtaining a biological sample from the subject;

determining the level of a marker in the sample, wherein the marker is a marker of claim 1;

comparing the level of the marker in the sample to a reference value; and

determining from the results of the comparison the type, stage or severity of Rheumatoid arthritis in the subject.

46. The method of claim 45, wherein the marker is selected from the group consisting of the markers set forth in Tables 1-8.

47. A method for determining the risk of developing rheumatoid arthritis in a subject, the method comprising:

obtaining a biological sample from the subject;

determining the level of a marker in the sample, wherein the marker is a marker of claim 1;

comparing the level of the marker in the sample to a reference value; and

determining from the results of the comparison that the subject has an increased or decreased risk of developing rheumatoid arthritis.

48. The method of claim 47, wherein the marker is selected from the group consisting of the markers set forth in Tables 1-8.

49. A kit comprising a marker selected from a marker of claim 2.

50. The kit of claim 49, wherein the marker is selected from the group consisting of the markers set forth in Tables 1-8.

51. A kit comprising a reagent that specifically binds to a marker of claim 2.

52. The kit of claim 51, wherein the marker is selected from the group consisting of the markers set forth in Tables 1-8.